

5   **PRINTABLE COMPOSITIONS HAVING ANISOMETRIC NANOSTRUCTURES  
FOR USE IN PRINTED ELECTRONICS**

ABSTRACT OF THE DISCLOSURE

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Compositions and methods for production of conductive paths can include a printable composition including a liquid carrier and a plurality of nanostructures. The plurality of nanostructures can have an aspect ratio of at least about 5:1 within the liquid carrier. Examples of nanostructures include nanobelts, 15 nanoplates, nanodiscs, nanowires, nanorods, and mixtures of these materials. These printable compositions can be used to form a conductive path on a substrate. The printable composition can be applied to a substrate using any number of conventional printing techniques. Following application of the printable composition, at least a portion of the liquid carrier can be removed such that the 20 nanostructures can be in sufficient contact to provide a conductive path. The nanostructures arranged in a conductive path can be sintered or used as a conductive material without sintering.

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